

**THE FEMALE OF *TENUIPHANTES CRACENS*
(ARANEAE: LINYPHIIDAE)
FROM NEWFOUNDLAND, CANADA¹**

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ABSTRACT: The female of *Tenuiphantes cracens* is described for the first time from specimens caught at Port au Choix, Newfoundland, Canada, in pitfall traps in spruce-fir woods at nearly sea level. The climatic severity of the location creates a suitable environment for this alpine species. To date, the species has only been caught during a brief summer period.

KEY WORDS: *Tenuiphantes cracens*, female, Araneae, Linyphiidae, Newfoundland, Canada.

Zorsch (1937) described the new species *Lepthyphantes cracens* (now *Tenuiphantes*; Saaristo and Tanasevitch, 1996) on the basis of two males: the holotype collected by C. R. Crosby in 1921 from Mount Whiteface, New York, and another male specimen from Mount Marcy, New York, collected by C. R. Crosby in 1930. The female was not described. As recently as 2001 no other location had been reported (Buckle et al., 2001). Then Paquin et al. (2001a, b) first mentioned the occurrence of males of the species in Canada in Quebec. Subsequently the species was included in a guide to Quebec spiders (Paquin and Dupérré, 2003). In 2000 pitfall trap collections in Newfoundland produced both males and the previously unknown female of *T. cracens*. The female is described here for the first time. Good reasons should always be provided for matching an unknown sex with its counterpart. Here, the unknown females are matched to male *T. cracens* for two reasons. First, because the females were taken in the same set of traps at the same time as males of the species, and second because the other *Tenuiphantes* species known from Newfoundland, *T. nigriventris* (L. Koch 1879), *T. tenuis* (Blackwall 1852) and *T. zebra* (Emerton 1882), have the identity of both sexes well established.

METHODS

All specimens of *T. cracens* reported here were caught in pitfall traps set in the litter of a stand of stunted, spruce-fir (*Picea spp.*, *Abies balsamea*) woods (50° 42' N, 57° 20.9' W; about 8.9 m above sea level) on the eastern edge of the community of Port au Choix, Newfoundland. Twenty traps were installed in four groups of five, each group arranged in a one square metre quincunx. All traps were in place from June 24 to August 20, 2000. Trapped specimens were removed on July 8, July 24, August 2, August 11, and August 20. One quincunx for one trapping period is here referred to as a set. Contents of the five traps form-

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ing one set were lumped as one sample. A total of 5 female and 17 male *T. cracens* were caught as follows: August 2-11, 4♂ and 3♀ in the same set; August 11-20, 2♂ and 2♀ in the same set; August 11-20, 11♂ in a separate set with no females. Note that all females were taken in the same sets as 6 of the males. The remaining 11 males were caught in a separate set of traps from the same time period as one of the catches containing both males and females. An example of the males has been identified as *T. cracens* by Dr. C. D. Dondale of the Canadian National Collection of Insects and Arachnids, Ottawa (CNC). A male and a female have been deposited in the CNC. The remaining specimens (both male and female) are in the Biology Department (Pickavance collection), Memorial University of Newfoundland.

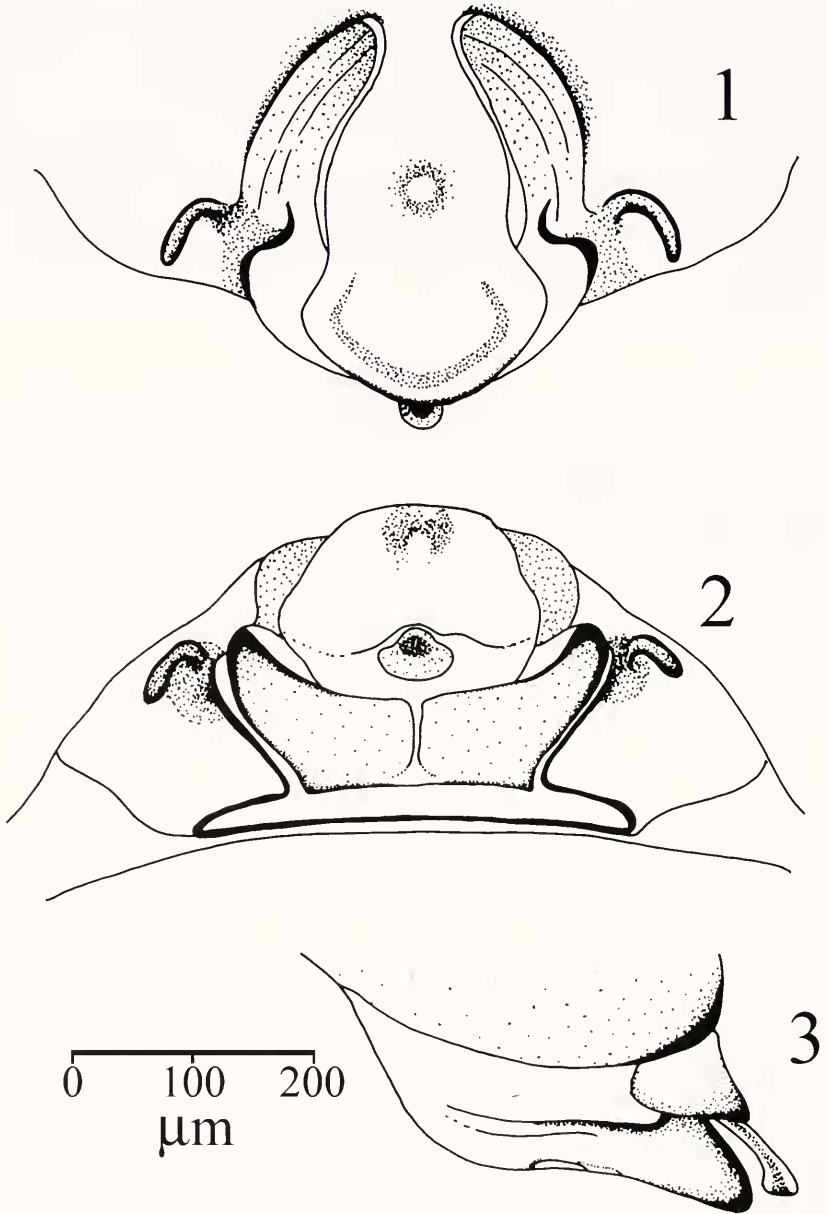
RESULTS

Diagnosis

The external genitalia of female *T. cracens* resemble in general form the other *Temuiphantes* species known from northeastern North America. These species are distinguished as follows. The sides of the scape of *T. nigriventris* are approximately straight (Helsdingen et al., 1977) whereas the sides of the scape of *T. cracens* have a distinct concavity in the posterior half. The anterior portion of the scape of *T. tenuis* has distinctly concave sides (Helsdingen et al., 1977), whereas the anterior part of the scape of *T. cracens* has convex sides. The scape of *T. zebra* is not expanded posteriorly and is broadly rectangular or ovoid (Paquin and Dupérré, 2003), whereas the scape of *T. cracens* is expanded posteriorly into two lateral wings.

Description

Figures 1-3 illustrate the external female genitalia of *T. cracens*. The term "scape" is used here in the sense of Zorsch (1937) to mean a continuation of the middle part of the ventral wall of the epigynum which is folded under itself and out again so that the narrow tip appears as a rounded tubercle at the end of the widened visible part of the organ. Observations and measurements are based on five specimens. The external appearance is characteristic. Mean width of the epigynum at widest point is 272 µm (range 265 - 275 µm). The bell-shaped scape ends in a posteriorly projecting central process which lies dorsal to the principal part of the scape. Width of the scape at its widest point is 198 µm (no measurable variation in the specimens examined). Mean length of the scape (from narrowest part of neck to posterior edge; excluding posteriorly projecting process) is 266 µm (range 264 - 275 µm). The ventral surface of the principal part of the scape has a shallow central depression surrounded by a sclerotized area which presents a slightly different appearance in each of the specimens examined. The anterior neck of the scape joins the anterior and lateral margins of the epigynum through an acute angle. In three of the specimens this acute angle is rounded and the neck of the scape is not hidden under the anterior margin or seemingly shielded by a membrane. In the other two specimens the acute angle is sharp rather than rounded so that the anterior of the neck is slightly tucked under the anterior margin of the epigynum. The anterior and lateral margins of the epigynum are smoothly concave rather than sinuous. Although all the epigyna examined here display a general bilateral symmetry, all were slightly asymmetrical in detail. Typically this asymmetry was particularly evident in the margins of the epigynum, the shape of the scape, and the configuration of the central depression on the scape.



Figures 1 - 3. *Temiphantes cracens* female epigynum. 1. Ventral, 2. Postero-ventral, 3. Left lateral. All figures drawn to the same scale. Setae and bristles omitted for clarity.

DISCUSSION

Adults of the species are evidently only sufficiently active to be caught in pit-fall traps for a limited period of time because all 17 specimens of this study were caught in only two of the trapping periods, covering the period August 2 to August 20, 2000. All other *T. cracens* specimens reported to date have been caught between July 7 and August 27. Paquin et al. (2001b) reported two specimens caught in 1991 from the Gaspé: one on July 8, the other between August 12 and 19. Zorsch (1937) reported two specimens from New York: one taken on August 25, 1921, the other on August 27, 1930. Clearly, future searches for this rarely collected species should focus on this time period.

The Port au Choix locality of *T. cracens*, at about 9 m above sea level, seems quite different from the other alpine-Appalachian (Paquin et al. 2001b) localities reported for this species: Mount Whiteface, Mount Marcy and the Gaspé. However, what Port au Choix lacks in altitude it makes up for in climatic severity. Port au Choix is at the northern end of the Northern Peninsula Ecoregion with its Atlantic high boreal ecoclimate and in many ways is similar to the Strait of Belle Isle Ecoregion immediately to the north with its Atlantic low subarctic ecoclimate (Ecological Stratification Working Group, 1995). Under either climatic regime, if *T. cracens* is indeed an alpine species then Port au Choix would provide its climatic ecological requirements.

ACKNOWLEDGEMENTS

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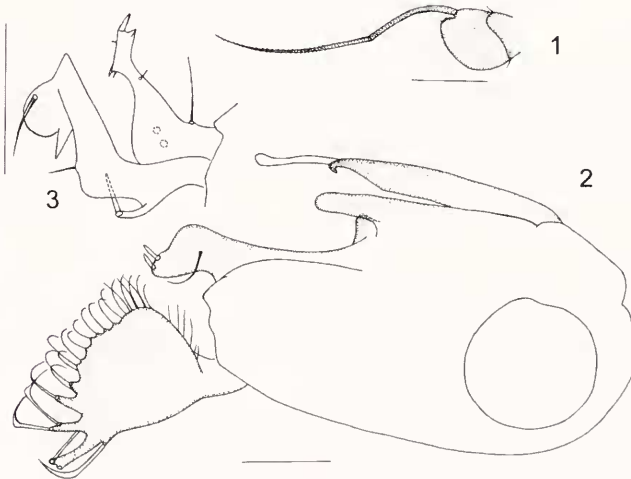
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CORRIGENDUM

On a recent paper by Yang et al. (2003, mailed on September 30, 2004), Notes on *Dolichopus*, *Allohercostomus*, and *Phalacrosona* from Nepal (Diptera: Dolichopodidae. *Entomological News* 114(5):271-274, figures 1-3 were misprinted. The correct images follow.



Figs 1-3. *Dolichopus nepalensis* n. sp. (male). 1, Antenna (excluding scape), lateral view; 2, genitalia, lateral view; 3, apical genital process, lateral view. Scale = 0.25 mm.